

Date: Thursday, 5/3/2007 11:30:36 AM  
 User: Kim Johnston

## Process Sheet

SP117A

Customer : CU-DAR001 Dart Helicopters Services Drawing Name : ROUND BILLET 17-4  
 Job Number : 32169A-2  
 Estimate Number : 10041  
 P.O. Number : N/A Part Number : D6104007  
 This Issue : 5/3/2007 S.O. No. : N/A Drawing Number : D6104 REV B  
 Prsht Rev. : NC Project Number : N/A  
 First Issue : N/A Type : MACHINED PARTS Drawing Revision : B  
 Previous Run : 25595 Material : N/A  
 Due Date : 5/25/2007 Qty: ~~10~~ 1 Um: Each  
 Written By : AD 07.05.03  
 Checked & Approved By : AD 07.05.03  
 Comment : Est. A: 01.05.08 New Issue EC

## Additional Product

Job Number:



Seq. #: Machine Or Operation: Description:

1.0 PG PURCHASING



Comment: PURCHASING

Issue P/O: 3709 C207104/107

a) Description: S.S round billet

b) Ø4.50" x 5.10" long

c) Tolerance on all dimensions are +0.030"/-0.000"

d) Material: 17-4PH Stainless steel (Ams 5643 or Aisi 630)

e) One blank makes 2 parts

f) Material certification required

⑩ 1

2.0 D6104007P 17-4 SS Roundbar 4.50"OD



Comment: Qty.: 1.0000 Each(s)/Unit Total: 10.0000 Each(s)  
 17-4 SS Roundbar 4.50"OD

3.0 PACKAGING 1 PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Receive &amp; Inspect For Transit Damage

Ensure material certification is attached

C207/05/25 ⑩

4.0 QC6 DIMENSIONAL CHECK



Comment: DIMENSIONAL CHECK

Ensure Material certification comply to Dwg D6104

S: P 07/05/07 ⑩



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## Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: ROUND BILLET 17-4

Job Number: 32169A

Part Number: D6104007

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: \_\_\_\_\_

*JS 05/05/08 ①*

6.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

*JS 05/05/08 ①*

Job Completion



*u 05/05/08*





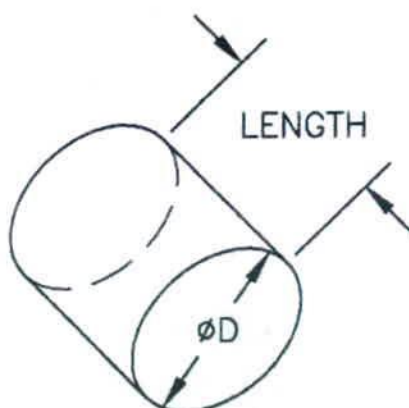


DESIGN RT	DRAWN BY 	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED 	APPROVED 	DRAWING NO. D6104	Rev. B SHEET 1 OF 1
DATE 02.11.25		TITLE ROUND BILLET, 17-4	SCALE NTS
A	01.04.10	NEW ISSUE	
B	02.11.25	CLARIFY ALLOY SPEC ADDED D6104-009/-011 REDUCE LENGTH OF BILLETS	

RELEASED

02.11.29

## SPECIFICATION CONTROL DRAWING



MATERIAL: 17-4 PH SS (AMS 5643 OR AISI 630) MIN UTS = 170 KSI (38 HRC)

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, DIAMETER x LENGTH (+0.030/-0.000) AS SHOWN.

TOLERANCE ON ALL DIMENSIONS IS +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES

Part No.	Alloy	D (Diameter)	Length
D6104-001	17-4 PH STAINLESS STEEL	Ø3.00	3.80
D6104-003	17-4 PH STAINLESS STEEL	Ø3.25	3.80
D6104-005	17-4 PH STAINLESS STEEL	Ø4.00	5.10
D6104-007	17-4 PH STAINLESS STEEL	Ø4.50	5.10
D6104-009	17-4 PH STAINLESS STEEL	Ø5.25	4.10
D6104-011	17-4 PH STAINLESS STEEL	Ø6.50	4.10

SHOP COPY  
RETURN TO  
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SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO 32169A

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# CERTIFICATE OF TEST

1-314 1001/000 1-323

A M CASTLE, INC		A M CASTLE, INC		OUR ORDER NO P5-18307-6-1	
3400 N WOLF RD		3400 N WOLF RD		DATE	
FRANKLIN PARK, IL 60131		FRANKLIN PARK, IL 60131		12 03/26/07	

CUSTOMER ORDER # & DATE 01-24467	CUSTOMER REQ. #	DISTRICT B PARSONS	SHIPPED FROM SYRACUSE
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DESCRIPTION OF MATERIAL

SIZE

CRU 17-4PH RT A IAC 14998 4.500 RD AIM+.031/.0  
AMC-3174-02 REV 26 ASME-SA564-04ED T630 ASTM-A564-04 T630  
AMS-2303E AMS-5643Q (EX SURF) AISI 630 UNS-S17400

HEAT NO.	CHEMICAL ANALYSIS										
A18455	C	MN	P	S	SI	NI	CR	MO	CU	CB	TA
	.039	.54	.027	.020	.52	4.31	15.30	.13	3.10	.28	.010

CASTLE METALS CORP.  
DATE RCVD 3/27/07  
IAC 14998  
APPROVED BY JW

QUANTITY	HEAT NO.	MECHANICAL PROPERTIES				
5712 #	A18455	TENSILE PSI	YLD. 2X PSI	XE LONG 4D	RED/AREA X	HARDNESS BHN 352
CAPABILITY PHYSICALS AFTER 900 DEG. F. - 1 HR. AIRCOOL:						
		199,240	172,620	14.3	48.3	BHN 401

MACRO TEST OK  
FERRITE 5 %  
MAGNAFLUX F/S = 0/0  
REDUCTION RATIO: 14.8:1  
MATERIAL SOLUTION TREATED AT 1900 DEG. F. HELD 2 HOURS AT TEMPERATURE  
AIRCOOLED.

CRUCIBLE MATERIALS CORP. VENDOR #18610.  
MATERIAL INGOT CAST.

NAFTA - YES  
MATERIAL FREE FROM MERCURY CONTAMINATION AT TIME OF SHIPMENT  
NO WELD REPAIR PERFORMED  
MATERIAL MELTED IN U.S.A.

THANK YOU FOR SELECTING A QUALITY PRODUCT  
MANUFACTURED BY THE EMPLOYEES OF CRUCIBLE SPECIALTY METALS

SWORN TO AND SUBSCRIBED BEFORE ME THIS  
DAY OF , 20

NOTARY PUBLIC

CERTIFIED BY:

THE ABOVE MATERIAL WAS MANUFACTURED AND TESTED IN ACCORD WITH ABOVE SPECIFICATIONS AND IS IN CONFORMANCE WITH THE SPECIFICATION REQUIREMENTS.  
CRUCIBLE MATERIALS CORPORATION  
ACTING BY AND THROUGH ITS SPECIALTY METALS DIVISION

JACKIE L. WHITE - SPECIFICATION EXAMINER

